



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CIVIL ENGINEER SUPPORT AGENCY

APR 28 2000

FROM: HQAFCEA/CES
139 Barnes Drive, Suite 1
Tyndall AFB FL 32403-5319

SUBJECT: **Engineering Technical Letter (ETL) 00-8: Airfield Pavement Design Criteria**

1. Purpose. This ETL prescribes revised design criteria for all Air Force airfields.

Note: Requirements of this ETL are mandatory unless waived by the appropriate MAJCOM.

2. Application: All Air Force facilities. Contact the appropriate MAJCOM regarding applicability to design projects initiated prior to publication of this ETL.

2.1. Authority: AFMAN(I) 32-8008V1 (TM 5-825-1), *General Provisions for Airfield/Heliport Pavement Design*.

2.2. Effective Date: Immediately.

2.3. Expiration. Expires upon publication of AFMAN(I) 32-1124, *Pavement Design for Airfields*.

2.4. Ultimate Recipients:

- Base Civil Engineers and other Air Force units responsible for design and construction.
- Corps of Engineers and Navy offices responsible for design and construction of Air Force facilities.
- Air Force MAJCOM engineers.

3. Background. Previous criteria were developed in the early 1980s. The basis for design for Medium Load airfields was the C-141. However, the C-141 is being replaced by the C-17, and most installations now support many more operations. A recent survey validated an approximate four-fold increase in operations at Medium Load bases since the original criteria were established. The revised criteria in this ETL reflect the change to the C-17 and the increase in operations. Application of these revised criteria will result in a slight increase in pavement thickness for both rigid and flexible pavements.

4. Requirements.

Table 1. Revised Airfield Pavement Design Criteria.

AIRFIELD	DESIGN	A TRAFFIC AREA		B TRAFFIC AREA		C TRAFFIC AREA*		D TRAFFIC AREA*		OVERRUNS*		SHOULDERS
		Weight KG (LB)	Passes	Weight KG (LB)	Passes	Weight KG (LB)	Passes	Weight KG (LB)	Passes	Weight KG (LB)	Passes	
Light	F-15C/D	30,844 (68,000)	400,000	30,844 (68,000)	400,000	23,133 (51,000)	400,000	N/A	N/A	23,133 (51,000)	4,000	Shoulders are designed to support 5,000 coverages of a 4,536-kg (10,000-lb) single-wheel load having a tire pressure of 689 kPa (100 psi).
	C-17	263,083 (580,000)	400	263,083 (580,000)	400	197,312 (435,000)	400			197,312 (435,000)	4	
Medium	F-15E	36,741 (81,000)	100,000	36,741 (81,000)	100,000	27,556 (60,750)	100,000	27,556 (60,750)	1,000	27,556 (60,750)	1,000	
	C-17	263,083 (580,000)	400,000	263,083 (580,000)	400,000	197,312 (435,000)	400,000	197,312 (435,000)	4,000	197,312 (435,000)	4,000	
	B-52**	181,437 (400,000)	400	181,437 (400,000)	400	136,078 (300,000)	400	136,078 (300,000)	4	136,078 (300,000)	4	
Heavy	F-15E	36,741 (81,000)	100,000	36,741 (81,000)	100,000	27,556 (60,750)	100,000	27,556 (60,750)	1,000	27,556 (60,750)	1,000	
	C-17	263,083 (580,000)	200,000	263,083 (580,000)	200,000	197,312 (435,000)	200,000	197,312 (435,000)	2,000	197,312 (435,000)	2,000	
	B-52	217,724 (480,000)	120,000	217,724 (480,000)	120,000	163,293 (360,000)	120,000	163,293 (360,000)	1,200	163,293 (360,000)	1,200	
Modified Heavy	F-15E	36,741 (81,000)	100,000	36,741 (81,000)	100,000	27,556 (60,750)	100,000	27,556 (60,750)	1,000	27,556 (60,750)	1,000	
	C-17	263,083 (580,000)	200,000	263,083 (580,000)	200,000	197,312 (435,000)	200,000	197,312 (435,000)	2,000	197,312 (435,000)	2,000	
	B-1	217,724 (480,000)	120,000	217,724 (480,000)	120,000	163,293 (360,000)	120,000	163,293 (360,000)	1,200	163,293 (360,000)	1,200	
Shortfield C-130	C-130	(79,377) 175,000	50,000 per squadron	N/A	N/A	N/A	N/A	N/A	N/A	(79,377) 175,000	50,000 per squadron	
Shortfield C-17	C-17	(277,703) 502,000	100,000	N/A	N/A	N/A	N/A	N/A	N/A	(277,703) 502,000	100,000	
Auxiliary	F-15	Design loads and passes are determined by the major command										

*The design gross weights for types C and D traffic areas and overruns are 75 percent of the design gross weights for types A and B traffic areas. Pass levels for type D traffic areas and overruns are one percent of the pass levels for type A traffic areas.

**Do not include the B-52 if the runway is less than 60 meters (200 feet) wide or there are other geometric limitations.

5. Point of Contact: Mr. Jim Greene, HQ AFCESA/CESC, DSN 523-6334, commercial (850)283-6334, FAX 523-6219, or email James.Greene@afcesa.af.mil.

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